DS505: INTRODUCTION TO DEEP LEARNING

S04: SOCIAL SENTIMENTAL ANALYSIS IN DATA SCIENCE

Analysis of the given dataset regarding the social sentiments of the product review. Understanding and deeply studying about Social Sentimental Analysis: it's importance, purpose, brief discussion and implementing it through the form of code in python programming language.

To begin with one of the key responsibilities of the internship was social sentimental analysis of the given dataset. Reading and understanding the data type and the required given information. Noting and remembering the important keywords given in the dataset. Evaluating the brands health: Better understanding the feelings of the reviews of the customers to understand their social sentiments regarding the product review. This insight leads to understanding the feeling about the company, product or service.

As social sentiment analysis delivers signal into shifts into your brand health. A spike in negative reviews can lead to the brand crisis. Social sentiment analysis provides better understanding of how the product or brand is perceived compared to the competition.

Rather than a simple count of mentions or comments, sentiment analysis considers emotions and opinions and is also known as opinion mining. It involves collecting and analysing information in the opinions people share about the brand.

Sentiment analysis is a natural language processing technique used to determine whether data is positive, negative or neutral. Sentiment analysis is often performed on textual data to help businesses monitor brand and product sentiment in customer feedback and understand customer needs.

Sentiment analysis focuses on the polarity of text i.e positive, negative or neutral to detect specific feelings and emotions. Depending on the way to interpret customer feedback and queries, there are categories defined and tailored to meet sentimental analysis needs.

Some popular types of sentimental analysis are noted below:

1. Gradient Sentiment Analysis: Polarity precision is important for business to consider expanding the polarity categories to include different levels of positive and negative: Very positive, Positive, Neutral Negative, Very Negative

2. Emotion Detection: Emotion detection sentiment analysis allows to go polarity to detect emotions. Many emotions detection is done using lexicons or complex machine learning algorithms.

3. Aspect based Sentiment Analysis: When analysing sentiments of texts and to know the particular aspects or features where aspect-based sentiment analysis helps.

4. Multilingual Sentiment Analysis: It a difficult process as compared to the other analytical types as it involves a lot of pre-processing and resources.

Basically, there are three types of sentiments:

1. Positive Negative Neutral: Sentiments refers to attitudes, opinions and emotions, there are subjective impressions as opposed to objective facts and strategies and techniques to identify the sentiments contained in particular text.

2. Subjective or Objective Identification: Subjectivity/objectivity identification involves classification of a sentence or a fragment of text into one of two categories: subjective or objectivity. Though, it should be noted that there are challenges when it comes to conducting this type of analysis. The main challenge is that the meaning of the word or even a phrase is often contingent on its context.

3. Feature or Aspect Based Identification: Feature or aspect identification allowing the determination of different opinions or sentiments (features) in relation to different aspects of an entity. Unlike subjectivity/objectivity identification, feature/aspect-based identification allows for a much more nuanced overview of opinions and feelings that helps to get more in-depth feelings of the people around us.

Sentiment Analysis is the most common text classification tool that analyses an incoming message and tells whether the underlying sentiment is positive, negative our neutral.

Sentiment analysis systems help organizations gather insights from unorganized and unstructured text that comes from online sources such as emails, blog posts, support tickets, web chats, social media channels, forums and comments.

Algorithms replace manual data processing by implementing rule-based, automatic or hybrid methods. Rule-based systems perform sentiment analysis based on predefined, lexicon-based rules while automatic systems learn from data with machine learning techniques. A hybrid sentiment analysis combines both approaches.

In addition to identifying sentiment, opinion mining can extract the polarity (or the amount of positivity and negativity), subject and opinion holder within the text.

Furthermore, sentiment analysis can be applied to varying scopes such as document, paragraph, sentence and sub-sentence levels.

Sentiment analysis tools can be used by organizations for a variety of applications, including:

1. Identifying brand awareness, reputation and popularity at a specific moment.
2. Tracking consumer reception of new products or features.
3. Evaluating the success of a marketing campaign.
4. Pinpointing the target audience or demographics.
5. Collecting customer feedback from social media, websites or online forms.
6. Conducting market research.
7. Categorizing customer service requests.